

WASTE MANAGEMENT PLAN

Prepared for: Hamilton Harbour Unit Trust
Leighton Properties & Devine Limited

Project Site: Hamilton Harbour

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INTRODUCTION

WASTECH ENGINEERING

COMPANY PROFILE

Wastech Engineering Pty Ltd was established in March 1993 and has established full national coverage of Australia. Head office and main manufacturing plant is in Melbourne with offices in New South Wales and Queensland. In addition, we have a full installation and service team in all other states.

We currently have a large range of products including waste and linen chutes, chute fed compaction equipment, stationary and transportable compactors, auger compactors, liquid extraction presses and skips and bins of all sizes and configurations. We offer a comprehensive service cover and programmed preventative maintenance contracts to reduce operating costs and interruptions.

Wastech Engineering has a strong history of supply to the building industry with recent major projects completed:

- MCG Northern Stand – Victoria
- Sun Corp Stadium – Queensland
- Freshwater Place – Victoria
- Eureka Tower – Victoria

We have a strong history of working with consulting engineers, architects and builders to solve numerous site issues and have supplied specific and various design options for our equipment.

Wastech Engineering frequently provide waste audit and waste management reports to support the design effort for new developments.

WASTE MANAGEMENT PLAN

This waste management plan is based on the following conditions:

- On-going use of the premises (does not include demolition or construction stages).
- The project consists of 2 commercial towers, 2 residential towers and stand alone retails, with approximate spaces detailed below:
 - Commercial tower 1 consists the following tenancies:
 - Convenience store (880m², estimated);
 - Show rooms (656 m², estimated);
 - Offices (16,280 m² estimated);
 - Commercial tower 2 consists the following tenancies:
 - Retail (267 m², estimated);
 - Show room (1,468 m², estimated);
 - Offices (14,946 m² estimated);
 - Residential tower 1 consists the following tenancies:
 - Apartments (238 - off);
 - Strata Offices (237 m² estimated);
 - Residential tower 2 consists the following tenancies:
 - Apartments (194 - off);
 - Strata Offices (240 m² estimated);
 - Stand alone retails (1,450 m² estimated);
- Figures and calculations are based on drawings and information supplied by Leighton Properties.
- Waste volume figures are estimates only and will be influenced by the tenant, resident and operator's disposition toward waste disposal and recycling, and by the development's occupancy rate. Refer to the enclosed tables for rates and assumptions.
- All waste facilities and equipment shall be in compliance with council codes, BCA, Australian Standards, and statutory requirements.

EXCLUSIONS

- Hard rubbish, green/garden waste, and liquid waste have been excluded from this plan (disposal shall be organised by the building manager via an appropriate contractor).

SCOPE OF REPORT

Description: Waste Management Plan for Two Residential Towers, Two Commercial Towers and Stand Alone Retail Tenancies:

Wastech Engineering has:

- reviewed building layout drawings and documentation and provide a waste management plan including the following:
- Calculated daily and weekly waste and recyclable volumes for residential, commercial and retail areas of the project
- Provided recommendations for compaction, storage and transportation of waste and recyclables within the site
- Included technical brochures and drawings for equipment recommended
- Included traffic flow advice based on our industry experience and knowledge
- Provided recommendations for vehicle collection type
- Detailed underground and overhead clearance issues for truck access
- Referenced collection companies and /or council collection/disposal services
- Provided a bound, hard copy and electronic version of the report

All recommendations and equipment shall be in compliance with council codes, BCA, Australian Standards and statutory requirements

Exclusions:

- Formal traffic management plan
- Design and drafting to resolve site specific issues

NOTE: All exclusions can be provided. On request, a quotation can be prepared to suit individual requirements

GENERATED WASTE VOLUME ESTIMATE

The enclosed waste estimates (expressed in uncompacted cubic metres per week) are summarised as follows (refer to the enclosed Waste Estimates):

COMMERCIAL WASTE	Garbage	Cardboard	Containers
Commercial 1	30.44	21.69	2.44
Commercial 2	19.99	14.20	2.24
Stand alone retails	5.08	2.54	0
Total			
(m³/wk uncompacted)	55.50	38.43	4.68
Bin	3 cubic meter	Baler	660 litre bins

Note: All office paper (7.81m³/wk, not included in the above estimate) shall be placed within a private contractor's secured bins (within office tenancies). If this paper need not be secured, then it can be added to the cardboard stream

STRATA OFFICE WASTE	Garbage	Cardboard	Containers
Strata offices 1-3 (residential 1)	0.24	0.20	0.04
Strata offices 4-7 (residential 2)	0.24	0.20	0.04
Total			
(m³/wk uncompacted)	0.48	0.40	0.08
Bin	240 litre bins	240 litre bins	240 litre bins

Note: All office paper (0.12m³/wk, not included in the above estimate) shall be placed within a private contractor's secured bins (within office tenancies). If this paper need not be secured, then it can be added to the cardboard stream

RESIDENTIAL WASTE	Garbage	Commingle Recycling	-
Residential 1 (238 Units)	42.84	28.56	-
Residential 2 (194 Units)	34.92	23.28	-
Total			-
(m³/wk uncompacted)	77.76	51.84	
Bin	660 litre bins	1500m ³ bins	-

Note: Commingle Recycling incorporates Glass, HDPE and PET containers, paper and cardboard.

RESIDENTIAL WASTE MANAGEMENT

The following is recommended:

Waste Streams

Residential waste shall be sorted on-site by the residents into the following streams and associated bins:

- Garbage; and
- Recycling (PET, aluminium, steel, HDPE, and Paper/Cardboard).

Residential Garbage Disposal

Residents shall place all garbage in tied plastic bags prior to transferring into the garbage chute (one waste chute for each tower). Each chute shall serve all apartment levels, and shall discharge into a compactor with bins located at basement. (Note: one compactor per chute.) The building manager shall replace full bins with clean, empty ones as required.

The building manager shall make bin transfers between the compactor locations and bin storage areas as required.

Residential Recyclable Disposal

Residents shall sort and dispose recyclables into crates located within chute air lock / loading room at each apartment level (both towers), providing spatial area is sufficient to accommodate crate. Residents shall flatten cardboard prior to disposal. Building manager is to collect crates as required from each apartment level and transfer recyclables to 1.5m³ bins located within the recyclable bin storage area in the basement.

Residential Garbage & Recycling Collection

The building manager shall make bin transfers between the basement level garbage rooms and the designated collection point at ground level of commercial tower 1 loading dock area. The building manager shall prepare bins for collection and coordinate with collection vehicle arrival so that vehicle access to the loading dock area is not impeded. Bins are to be transferred to collection point on the day of collection and returned to garbage holding area on the same day. It is suggested that a bin tug or trailer is utilised for transferring of bins to the collection points.

Twice or three times weekly garbage collection is envisaged (to be confirmed by Leighton Properties & Devine Limited).

Daily (5 times) a week recycling collection is envisaged.

The collection of waste and recycling bins is to be performed by private contractor or council from the designated collection point within the commercial tower 1 loading dock area. Minimum overhead clearance height for a rear lift garbage collection truck is 3.5m. Minimum overhead clearance for a front lift collection

vehicle is 6.5m. Traffic management consultants to advise how collection vehicle is to manoeuvre at ground level to the collection point.

RESIDENTIAL WASTE HANDLING EQUIPMENT

The following waste handling equipment is recommended:

Garbage Chute: 530mm diameter galvanised steel chute serving all apartment levels, as supplied by Wastech Engineering (or equivalent).

Quantity required = two (2) *one per residential tower

Garbage Compactor: Automated EcoPack garbage-chute compactor with a bin carousel capable of holding 4-off 660 litre bins, as supplied by Wastech Engineering (or equivalent).

Quantity = two (2) *one per residential tower

Twice weekly garbage collection:

Residential Tower 1 (238 Apartments)		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	42.84	cubic metres
Weekly Garbage Volume (Compacted 3:1)	14.28	cubic metres
Bin Type	660	litre
Frequency of collection	2	per week
Bins required for collection (compacted volume / bin capacity)	11	
Spare Bins required	4	
Garbage Total bins required	15	

RECYCLING		
Weekly Recycling Volume	28.56	cubic metres

Bin Type	1500	litre
Frequency of collection	5	per week
Bins required for collection	4	
Spare Bins required	1	
Recycling Total bins required	5	

Residential Tower 2 (194 Apartments)		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	34.92	cubic metres
Weekly Garbage Volume (Compacted 3:1)	11.64	cubic metres
Bin Type	660	litre
Frequency of collection	2	per week
Bins required for collection (compacted volume / bin capacity)	9	
Spare Bins required	4	
Garbage Total bins required	13	

RECYCLING		
Weekly Recycling Volume	23.28	cubic metres
Bin Type	1500	litre
Frequency of collection	5	per week
Bins required for collection	4	
Spare Bins required	1	
Recycling Total bins required	5	

Three times weekly garbage collection:

Residential Tower 1 (220 Apartments)		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	42.84	cubic metres
Weekly Garbage Volume (Compacted 3:1)	14.28	cubic metres
Bin Type	660	litre
Frequency of collection	3	per week
Bins required for collection (compacted volume / bin capacity)	8	
Spare Bins required	4	
Garbage Total bins required	12	

RECYCLING		
Weekly Recycling Volume	28.56	cubic metres
Bin Type	1500	litre
Frequency of collection	5	per week
Bins required for collection	4	
Spare Bins required	1	
Recycling Total bins required	5	

Residential Tower 2 (194 Apartments)		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	34.92	cubic metres
Weekly Garbage Volume (Compacted 3:1)	11.64	cubic metres
Bin Type	660	litre
Frequency of collection	3	per week
Bins required for collection (compacted volume / bin capacity)	6	
Spare Bins required	4	
Garbage Total bins required	10	

RECYCLING		
Weekly Recycling Volume	23.28	cubic metres
Bin Type	1500	litre
Frequency of collection	5	per week
Bins required for collection	4	
Spare Bins required	1	
Recycling Total bins required	5	

COMMERCIAL WASTE MANAGEMENT

The following is proposed:

Waste Streams

Business trade waste shall be sorted on-site by the occupiers into the following streams and associated bins:

- Garbage;
- Containers (PET, aluminium, steel, HDPE, etc);
- Paper; and
- Cardboard.

All garbage shall be placed in tied plastic bags prior to transferring into the collection bins.

Commercial tower one

Convenience Store and Showrooms

Garbage bins (suitable capacities) shall be provided for these establishments, kept at back of house (BOH). The operators of these establishments shall make bin transfers between BOH and the compactor located in the refuse room adjacent to commercial tower 1 loading dock at ground floor for garbage disposal.

Cardboard shall be flattened prior to disposal and transferred to the baler located in refuse room at ground floor adjacent to commercial tower 1 loading dock area for disposal.

Offices

These tenancies and the associated amenities shall be furnished with suitable garbage bins (for each work-station and staff room). Cleaning staff shall periodically clear bagged-garbage using a cleaner's trolley or suitable size bin, and transfer this waste to the compactor located in the refuse room adjacent to commercial tower 1 loading dock at ground level for disposal. Cleaning staff also shall periodically clear recyclable waste (mainly containers) using a cleaner's trolley or suitable size bin, and transfer this waste to 660Lt bins located in the refuse room adjacent to commercial tower 1 loading dock at ground level for disposal.

Cardboard shall be flattened by staff prior to disposal and cleaning staff shall clear cardboard between each office level, using a cleaner's trolley or suitable size bin, for transfer to the baler located in refuse room at ground floor adjacent to commercial tower 1 loading dock.

Secured paper bins (240 litres) shall be located near photocopiers and shall be exchanged within this tenancy by a specialty contractor.

Commercial tower two

General retails and Showrooms

Garbage bins (suitable capacities) shall be provided for these establishments, kept at back of house (BOH). The operators of these establishments shall make bin transfers between BOH and the compactor located in the refuse room adjacent to commercial tower 2 loading dock at ground floor for garbage disposal.

Cardboard shall be flattened prior to disposal and transferred to the baler located in refuse room at ground floor adjacent to commercial tower 2 loading dock area for disposal.

Offices

These tenancies and the associated amenities shall be furnished with suitable garbage bins (for each work-station and staff room). Cleaning staff shall periodically clear bagged-garbage using a cleaner's trolley or suitable size bin, and transfer this waste to the compactor located in the refuse room adjacent to commercial tower 2 loading dock at ground level for disposal. Cleaning staff also shall periodically clear recyclable waste (mainly containers) using a cleaner's trolley or suitable size bin, and transfer this waste to the 660Lt bins located in the refuse room adjacent to commercial tower 2 loading dock at ground level for disposal.

Cardboard shall be flattened by staff prior to disposal and cleaning staff shall clear cardboard between each office level, using a cleaner's trolley or suitable size bin, for transfer to the baler located in refuse room at ground floor adjacent to commercial tower 2 loading dock.

Secured paper bins (240 litres) shall be located near photocopiers and shall be exchanged within this tenancy by a specialty contractor.

Stand alone retails

Garbage bins (suitable capacities) shall be provided for these establishments, kept at back of house (BOH). The operators of these establishments shall make bin transfers between BOH and the compactor located in the refuse room adjacent to the commercial tower 1 loading dock at ground floor for garbage disposal.

Cardboard shall be flattened prior to disposal and transferred to the baler located in refuse room at ground floor adjacent to commercial tower 1 loading dock.

Strata Offices (under Residential tower 1)

These offices shall be furnished with suitable garbage bins (for each work-station and staff room). Cleaning staff shall periodically clear bagged-garbage and transfer this waste to a designated 240 litre bin, kept at back of each office for disposal.

Cardboard and container bins (suitable sizes) shall be located near each work station and staff room. Cardboard shall be flattened by staff prior to disposal. Cleaning staff shall periodically clear commingle recycling (cardboards and containers) and transfer these wastes to a designated 240 litre bin, kept at back of each office for commingle recycling disposal.

Office staff shall transfer waste paper for disposal to a designated 240 litre secured bin located at the back of each office, where a speciality contractor shall exchange them.

Strata Offices (under Residential tower 2)

These offices shall be furnished with suitable garbage bins (for each work-station and staff room). Cleaning staff shall periodically clear bagged-garbage and transfer this waste to a designated 240 litre bin, kept at back of each office for disposal.

Cardboard and container bins (suitable sizes) shall be located near each work station and staff room. Cardboard shall be flattened by staff prior to disposal. Cleaning staff shall periodically clear commingle recycling (cardboards and containers) and transfer these wastes to a designated 240 litre bin, kept at back of each office for commingle recycling disposal.

Office staff shall transfer waste paper for disposal to a designated 240 litre secured bin located at the back of each office, where a speciality contractor shall exchange them.

Commercial/Retail Garbage & Recycling Collection

Commercial tower 1 and 2 & internal retails:

The building manager shall prepare bins for collection and coordinate with collection vehicle arrival so that vehicle accesses to the loading dock areas are not impeded. Building manager shall transfer baled cardboard to collection vehicle in loading dock on the collection day.

Three times a week collections for general garbage and container recycling, and, weekly collection for cardboard recycling are envisaged for both commercial towers. Secured waste paper bins shall remain at the various office levels where a speciality contractor shall exchange them. Twice weekly collection of secured waste paper bins is envisaged.

Strata office (residential tower 1)

Office staff shall make bin transfers between the back of house and the designated kerbside collection point. Bins are to be transferred to collection point on the day of collection and returned to back of house within each office on the same day upon completion of collection.

Weekly garbage collection is envisaged.

Fortnightly commingle recycle collection is envisaged.

Monthly collection of secured waste paper from the back of each office shall be carried out by a specialty contractor.

Strata office (residential tower 2)

Office staff shall make bin transfers between the back of house and the designated kerbside collection point. Bins are to be transferred to collection point on the day of collection and returned to back of house within each office on the same day upon completion of collection.

Weekly garbage collection is envisaged.

Fortnightly commingle recycle collection is envisaged.

Monthly collection of secured waste paper from the back of each office shall be carried out by a specialty contractor.

The collections shall be carried-out by a private contractor or council (to be confirmed by Leighton Properties) within the commercial building's ground floor loading dock areas. Overhead clearance height within the loading dock area must have a minimum of 6.5m overhead clearance to ensure front lift collection vehicle can perform its duty. Traffic management consultants to advise how collection vehicle is to manoeuvre within the site for all collection points.

COMMERCIAL WASTE HANDLING EQUIPMENT

The following waste handling equipment is recommended:

Compactor

A stationary garbage compactor may be utilised, such as the S250 compactor with a 3 cubic meter, 240/660litre bin lifter, safety cage and compaction ratio of 3:1, as supplied by Wastech Engineering, or equivalent.

Quantity required = two (2) *one per commercial tower

Commercial tower 1

Commercial Building 1		
GARBAGE		
Weekly Garbage Volume	35.51	cubic metres
Compact Ratio (3:1)	10.15	cubic metres

Commercial tower 2

Commercial Building 2		
GARBAGE		
Weekly Garbage Volume	19.99	cubic metres
Compact Ratio (3:1)	6.66	cubic metres

Note: to be operated by commercial tenants and building manager and collected by private contractor

Baler

Bramidan cardboard baler with holding cage and compaction ratio of 3:1, as supplied by Wastech Engineering or equivalent, to reduce required quantity of bins for collection by contractor.

Quantity required = two (2) *one per commercial tower

Commercial tower 1

Commercial Building 1		
CARDBOARD		
Weekly Cardboard Volume	21.69	cubic metres
Compact Ratio (3:1)	7.23	cubic metres

Commercial tower 2

Commercial Building 2		
CARDBOARD		
Weekly Cardboard Volume	14.20	cubic metres
Compact Ratio (3:1)	4.73	cubic metres

Note: to be operated by building manager and collected by private contractor

Commercial Building 1 & Stand alone retails		
GARBAGE		
Weekly Garbage Volume	35.51	cubic metres
Compact Ratio (3:1)	11.84	cubic metres
Bin Type	3000	litre
Frequency of collection	3	per week
Bins required for collection	2	
Spare Bins required	1	
Garbage Total bins required	3	

CONTAINERS

Weekly container Volume	2.44	cubic metres
Bin Type	660	litre
Frequency of collection	3	per week
Bins required for collection	2	
Spare Bins required	1	
Container Total bins required	3	

PAPER

Weekly Paper Volume	4.07	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection	9	
Paper Total bins required	9	

CARDBOARD

Weekly Cardboard Volume	24.23	cubic metres
Compact Ratio (3:1)	8.08	cubic metres
Frequency of collection	1	per week

Commercial Building 2

GARBAGE

Weekly Garbage Volume	19.99	cubic metres
Compact Ratio (3:1)	6.66	cubic metres
Bin Type	3000	litre
Frequency of collection	3	per week

Bins required for collection	1	
Spare Bins required	1	
Garbage Total bins required	2	

CONTAINERS		
Weekly container Volume	2.24	cubic metres
Bin Type	660	litre
Frequency of collection	3	per week
Bins required for collection	2	
Spare Bins required	1	
Container Total bins required	3	

PAPER		
Weekly Paper Volume	3.74	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection	8	
Paper Total bins required	8	

CARDBOARD		
Weekly Cardboard Volume	14.20	cubic metres
Compact Ratio (3:1)	4.73	cubic metres
Frequency of collection	1	per week

Strata Office 1		
GARBAGE		
Weekly Garbage Volume	0.24	cubic metres
Bin Type	240	litre
Frequency of collection	1	per week

Bins required for collection	3	
Spare Bins required	0	
Garbage Total bins required	3	

COMMINGLE RECYCLING		
Weekly container Volume	0.24	cubic metres
Bin Type	240	litre
Frequency of collection	1	fortnightly
Bins required for collection	3	
Spare Bins required	0	
Container Total bins required	3	

PAPER		
Weekly Paper Volume	0.06	cubic metres
Bin Type	240	litre
Frequency of collection	1	monthly
Bins required for collection	3	
Paper Total bins required	3	

Strata Office 2		
GARBAGE		
Weekly Garbage Volume	0.24	cubic metres
Bin Type	240	litre
Frequency of collection	1	per week
Bins required for collection	4	
Spare Bins required	0	
Garbage Total bins required	4	

COMMINGLE RECYCLING		
Weekly container Volume	0.24	cubic metres
Bin Type	240	litre
Frequency of collection	1	fortnightly
Bins required for collection	4	
Spare Bins required	0	
Container Total bins required	4	

PAPER		
Weekly Paper Volume	0.06	cubic metres
Bin Type	240	litre
Frequency of collection	1	Monthly
Bins required for collection	4	
Paper Total bins required	4	

BIN SUMMARY

RESIDENTIAL WASTE

Option 1:

Twice Weekly Garbage Waste Collection

Residential Tower 1

TOTAL 660 LITRE BINS REQUIRED	15
TOTAL 1500 CUBIC METRE BINS REQUIRED	5

Residential Tower 2

TOTAL 660 LITRE BINS REQUIRED	13
TOTAL 1500 CUBIC METRE BINS REQUIRED	5

Option 2:

Three times Weekly Garbage Waste Collection

Residential Tower 1

TOTAL 660 LITRE BINS REQUIRED	12
TOTAL 1500 CUBIC METRE BINS REQUIRED	5

Residential Tower 2

TOTAL 660 LITRE BINS REQUIRED	10
TOTAL 1500 CUBIC METRE BINS REQUIRED	5

* Type to be confirmed by building management

Crates

Bin Type	50L Crate	70L Crate	90L Crate
Height	320 mm	395 mm	420 mm
Length	575 mm	575 mm	450 mm
Width	445 mm	445 mm	450 mm



COMMERCIAL WASTE

Commercial Tower 1

TOTAL 240 LITRE BINS REQUIRED	9
TOTAL 660 LITRE BINS REQUIRED	3
TOTAL 3 CUBIC METRE BINS REQUIRED	3

Commercial Tower 2

TOTAL 240 LITRE BINS REQUIRED	8
TOTAL 660 LITRE BINS REQUIRED	3
TOTAL 3 CUBIC METRE BINS REQUIRED	2

Strata Office (Residential Tower 1)

TOTAL 240 LITRE BINS REQUIRED	9
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Strata Office (Residential Tower 2)

TOTAL 240 LITRE BINS REQUIRED	12
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ADDITIONAL WASTE MANAGEMENT INFORMATION

As bins and cleaner's trolley would be "wheeled" throughout the building, any ramps would require a maximum gradient of 1:14 to meet regulatory requirements (steps not permitted).

Items unsuitable for disposal via garbage or recycling bins would need to be disposed with the assistance of the caretaker. This would include: large, heavy, and liquid waste items.

To minimise security, vandalism, odour/visual impact, and health/safety issues, the following shall be considered:

- Ensure all bins are clean. Provide a tap and drain in the waste rooms;
- Transferring waste and shifting bins shall require the minimum possible manual handling (others to assess manual handling risk as per regulatory requirements);
- Provide signage and usage labels for the garbage and recycling bins; provided by the bin supplier or council
- Make the bin stores secure and vermin proof;
- Ensure adequate ventilation of the bin stores and chute airlocks;
- A bin wash area and sink with tap shall be located within the bin store area, or alternatively, a bin cleaning contractor to be employed on a regular basis to clean bins;
- Building manager shall keep clean the bin stores;
- Building manager to wash bins regularly and keep bin lids closed;
- Ensure prompt return of empty bins once collection has occurred;
- Operator shall prepare operational instructions and an operational health and safety procedure for site staff;
- Should bin transfers require lengthy travel and transit via car park ramps steeper than 1:14 gradients, consider the use of a suitable bin tug or tow vehicle; Refer to attached Electrodrive brochure;
- An adequate traffic management plan and collection-vehicle safe operation procedure shall be prepared and implemented by the operator(s) of the development, the relevant equipment supplier(s), traffic management consultant(s), and the waste removal contractor(s) and,
- It is suggested that bins are labelled and colour-coded.

Contact information:

Brisbane City Council

69 Ann Street, Brisbane, QLD 4000
Ph 07 3403 888

Wanless Wastecorp (private waste collector)

40 Lensworth Street, Coopers Plains, QLD 4108
Ph 07 3875 9000

Veolia Environmental Services

166 Boundary Rd
Rocklea, QLD, 4106
07 3275 0111
qld@veolia.com.au

Recall SDS Service (private waste security paper collector)

10 Longford Court, Springvale, VIC 3171
Ph 1300 366 011

Electrodrive Pty Ltd (tug manufacturer)

C/o Wastech Engineering

Eco-Safe Technologies (odour control equipment supplier)

C/o Wastech Engineering

Wastech Engineering Pty. Ltd.

Waste Equipment Designer & Manufacturer
Valerie Collins
National Sales Executive
33 Wedgewood Road, Hallam VIC 3803
Ph 03 8787 1600
valerie@wastech.com.au

Job:	Hamilton Harbour	Date:	15-Oct-08
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Commerical building 1-Retail area(Convenience Store)			
Floor Area (m ² , estimated)	880	Usage: 7 days per week	
Garbage for Disposal (m ³ /wk uncompacted):	12.32	(Rate: m ³ /day/100m ² area) ¹	0.200
Cardboard (m ³ /wk uncompacted):	7.39	(Rate: m ³ /day/100m ² area) ¹	0.120
Commercial building 1-Showroom			
Floor Area (m ² , estimated)	656	Usage: 7 days per week	
Garbage for Disposal (m ³ /wk uncompacted):	1.84	(Rate: m ³ /day/100m ² area) ¹	0.040
Cardboard (m ³ /wk uncompacted):	0.46	(Rate: m ³ /day/100m ² area) ¹	0.010
Commercial building 1-Office			
Floor Area (m ² , estimated)	16280	Usage: 5 days per week	
Garbage (m ³ /wk uncompacted):	16.28	(Rate: m ³ /day/100m ² area) ³	0.020
Office Paper (m ³ /wk uncompacted):	4.07	(Rate: m ³ /day/100m ² area) ¹	0.005
Containers (m3/wk uncompacted):	2.44	(Rate: m ³ /day/100m ² area) ¹	0.003
Cardboard (m ³ /wk uncompacted):	13.84	(Rate: m ³ /day/100m ² area) ³	0.017
Commerical building 2-Retail area			
Floor Area (m ² , estimated)	267	Usage: 7 days per week	
Garbage for Disposal (m ³ /wk uncompacted):	0.93	(Rate: m ³ /day/100m ² area) ¹	0.050
Cardboard (m ³ /wk uncompacted):	0.47	(Rate: m ³ /day/100m ² area) ¹	0.025
Commerical building 2-Total Showroom			
Floor Area (m ² , estimated)	1468	Usage: 7 days per week	
Garbage for Disposal (m ³ /wk uncompacted):	4.11	(Rate: m ³ /day/100m ² area) ¹	0.040
Cardboard (m ³ /wk uncompacted):	1.03	(Rate: m ³ /day/100m ² area) ¹	0.010
Commerical building 2-Office			
Floor Area (m ² , estimated)	14946	Usage: 5 days per week	
Garbage (m ³ /wk uncompacted):	14.95	(Rate: m ³ /day/100m ² area) ³	0.020
Office Paper (m ³ /wk uncompacted):	3.74	(Rate: m ³ /day/100m ² area) ¹	0.005
Containers (m3/wk uncompacted):	2.24	(Rate: m ³ /day/100m ² area) ¹	0.003

Cardboard (m ³ /wk uncompacted):	12.70	(Rate: m ³ /day/100m ² area) ³	0.017
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Strata Office (residential tower 1)			
Floor Area (m ² , estimated)	237	Usage: 5 days per week	
Garbage (m ³ /wk uncompacted):	0.24	(Rate: m ³ /day/100m ² area) ³	0.020
Office Paper (m ³ /wk uncompacted):	0.06	(Rate: m ³ /day/100m ² area) ¹	0.005
Containers (m ³ /wk uncompacted):	0.04	(Rate: m ³ /day/100m ² area) ¹	0.003
Cardboard (m ³ /wk uncompacted):	0.20	(Rate: m ³ /day/100m ² area) ³	0.017
Strata Office (residential tower 2)			
Floor Area (m ² , estimated)	240	Usage: 5 days per week	
Garbage (m ³ /wk uncompacted):	0.24	(Rate: m ³ /day/100m ² area) ³	0.020
Office Paper (m ³ /wk uncompacted):	0.06	(Rate: m ³ /day/100m ² area) ¹	0.005
Containers (m ³ /wk uncompacted):	0.04	(Rate: m ³ /day/100m ² area) ¹	0.003
Cardboard (m ³ /wk uncompacted):	0.20	(Rate: m ³ /day/100m ² area) ³	0.017
Stand alone retails			
Floor Area (m ² , estimated)	1450	Usage: 7 days per week	
Garbage for Disposal (m ³ /wk uncompacted):	5.08	(Rate: m ³ /day/100m ² area) ¹	0.050
Cardboard (m ³ /wk uncompacted):	2.54	(Rate: m ³ /day/100m ² area) ¹	0.025

TOTAL	
Garbage (m ³ /wk uncompacted):	55.98
Containers (m ³ /wk uncompacted):	4.76
Office Paper (m ³ /wk uncompacted):	7.93
Cardboard (m ³ /wk uncompacted):	38.83

References/Notes:

Brisbane City Council - "Draft" Development Applications - Waste Management and Resource Recovery Guidelines 2007

Combined Sydney Region of Councils - Draft Waste Management Guidelines 2005

Job: Hamilton Harbour -Residential 1

Date: 17-Nov-08

No. OF RESIDENTIAL APARTMENTS

238

Garbage (m³/week uncompacted): 42.84 (Rate/apartment)¹: 0.180

Commingled Recyc. (m³/week uncompacted): 28.56 (Rate/apartment)¹: 0.120

COMPACTOR DETAILS (garbage only - via refuse chute)

Bin Size (litres)	Compaction Ratio	No. of Bins in Rotofeed	No. of Days to Fill-up Rotofeed	No. of Bins Filled per Week
660	0.33	4	1.3	21.6

COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	3.5 days (660 litre bins, compacted)	10.8
Commingled Recyc.	5 days (1500m ³ bins)	3.8

COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	2.3 days (660 litre bins, compacted)	7.2
Commingled Recyc.	5 days (1500m ³ bins)	3.5

References/Notes:

Brisbane City Council - Development Applications - Waste Management and Resource Recovery Guidelines 2007

Job:	Hamilton Harbour - Residential 2	Date:	15-Oct-08
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No. OF RESIDENTIAL APARTMENTS	194		
Garbage (m ³ /week uncompacted):	34.92	(Rate/apartment) ¹ :	0.180
Commingled Recyc. (m ³ /week uncompacted):	23.28	(Rate/apartment) ¹ :	0.120

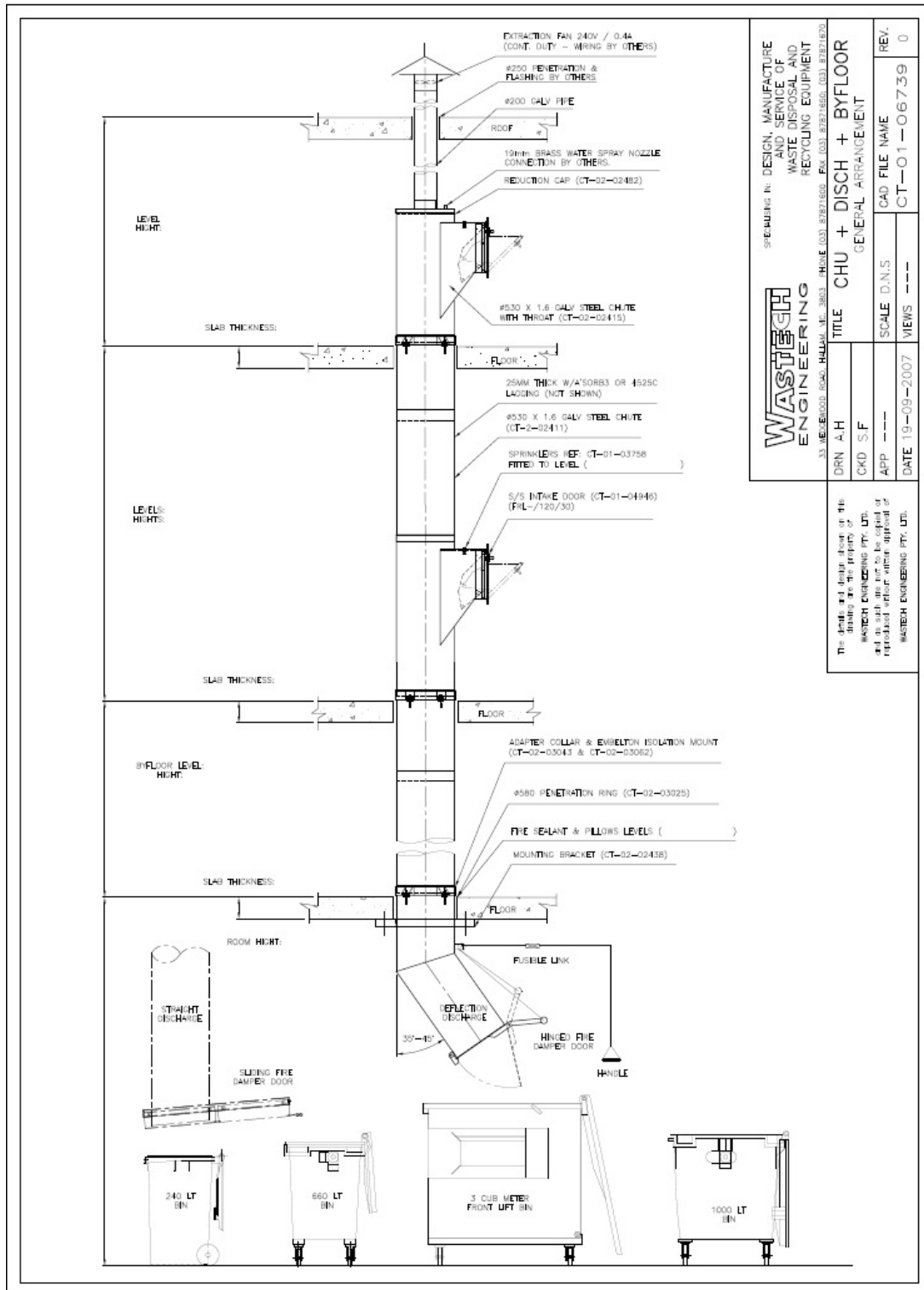
COMPACTOR DETAILS (garbage only - via refuse chute)				
Bin Size (litres)	Compaction Ratio	No. of Bins in Rotofeed	No. of Days to Fill-up Rotofeed	No. of Bins Filled per Week
660	0.33	4	1.6	17.6

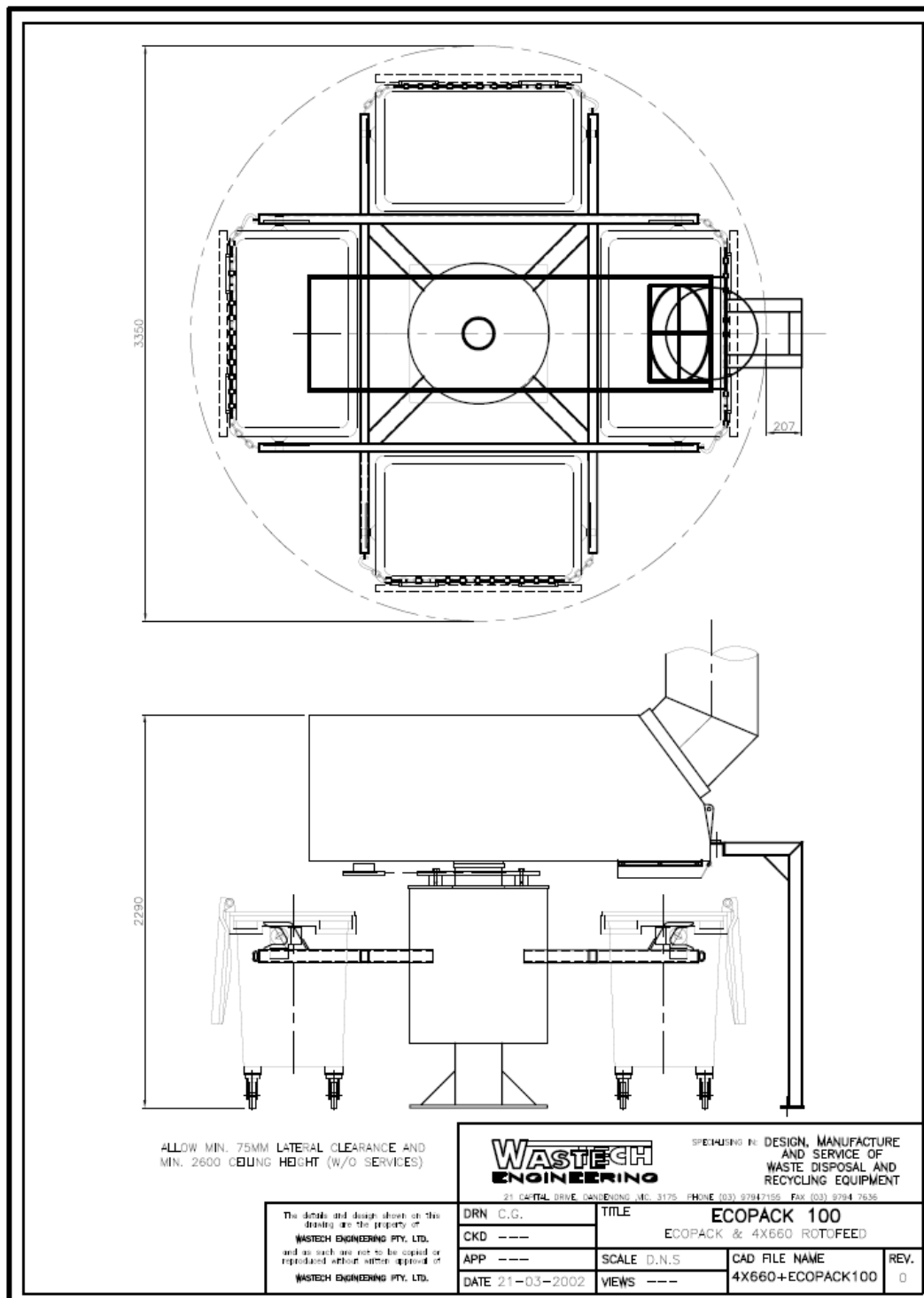
COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	3.5 days (660 litre bins, compacted)	8.8
Commingled Recyc.	5 days (1500m ³ bins)	3.1

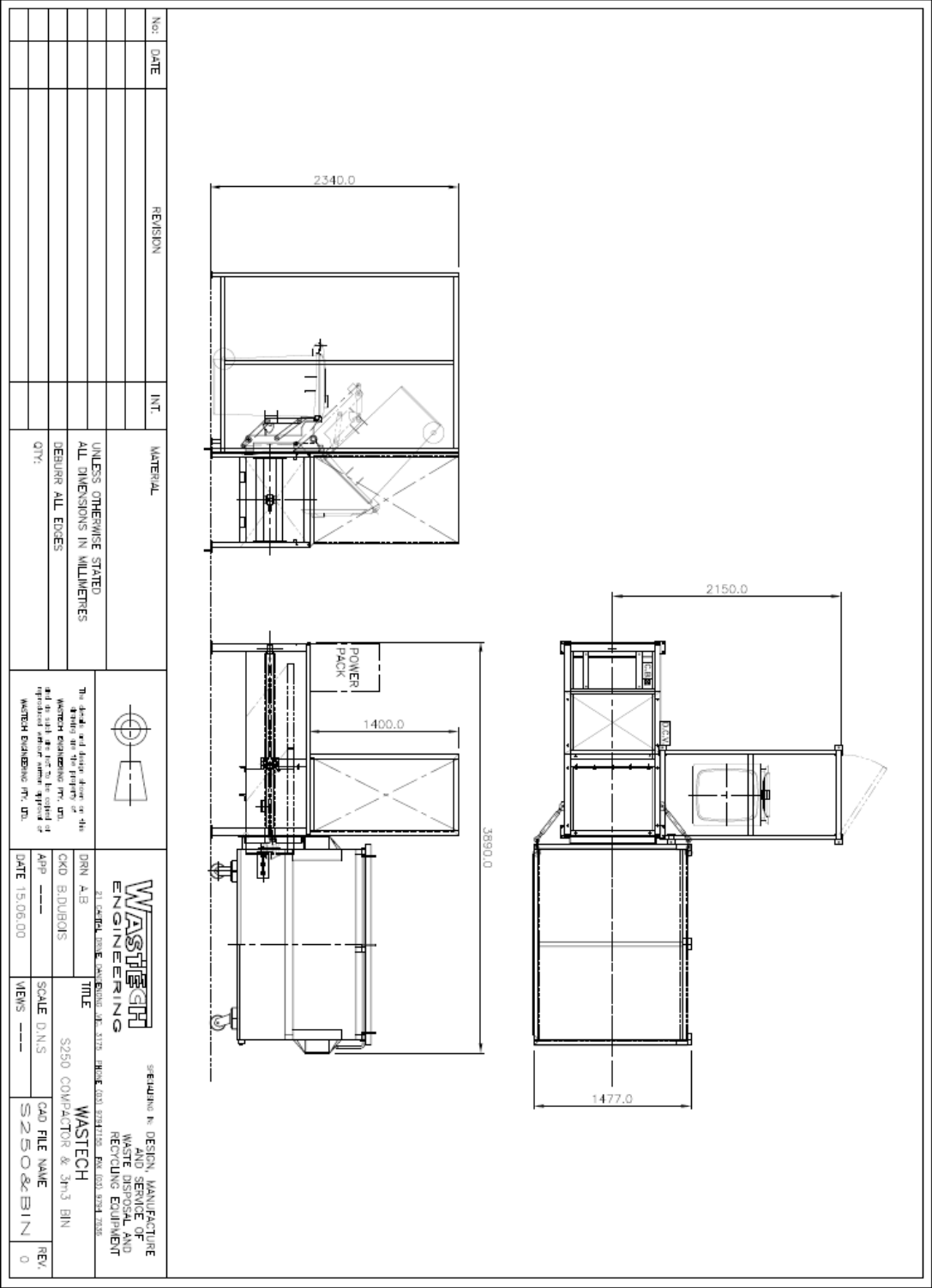
COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	2.3 days (660 litre bins, compacted)	5.9
Commingled Recyc.	5 days (1500m ³ bins)	3.1

References/Notes:

Brisbane City Council - Development Applications - Waste Management and Resource Recovery Guidelines 2007







Bramidan Balers



MODEL: 4 X 16



MODEL: 3 X 12



MODEL: B4



MODEL: B3



Bramidan Vertical Balers compact a range of products from Cardboard, Plastic, Polystyrene and Waste in dense bales for ease of handling and lower transport costs.

Technical specifications

	4 X 30	4 X 16	3 X 12	B4	B3
Press Force (t)	30	16	12	4	3
Bale Weight (kg) - Cardboard	340	230	80 - 100	70 - 100	30 - 50
Bale Weight (kg) - Plastic	450	300	100 - 120	80 - 120	40 - 70
Bale size LxWxH (mm)	1200 x 800 x 1000	1200 x 800 x 800	800 x 600 x 600	1000 x 700 x 850	700 x 500 x 700
Loading Door Opening WxH (mm)	1090 x 600	1090 x 510	715 x 715	1000 x 490	700 x 490
Cycle Time (sec)	50	28	20	18	18
Machine Dimensions LxWxH (mm)	1720 x 1290 x 2280	1720 x 1220 x 1980	1245 x 760 x 1890	1270 x 850 x 2400	870 x 660 x 1980
Machine Weight (kg)	1540	1320	835	580	420
Power Requirement	415V x 16A 3 phase	415V x 16A 3 phase	415V x 16A 3 phase	240V x 10A Single Phase	240V x 10A Single Phase



HEAD OFFICE: 03 9703 3444 NSW: 02 9729 1455 QLD: 07 3271 6580

AGENTS ALL STATES - TOLL FREE: 1800 465 465

Email: info@wastech.com.au Web: www.wastech.com.au

240 litre container

Material

- **Polymer components:**
 - Injection moulded from specially designed HDPE
 - Resistant to decay, frost, heat and chemicals
 - Special UV-stabilisation provides excellent ageing characteristics
- **Corrosion resistant metal components:**
 - Solid, galvanised steel axle
- **Noise reduction:**
 - Quiet-running solid rubber tyres
 - Tight-fitting axle
- **Long service life:**
 - High quality materials
 - Most advanced manufacturing processes
 - Withstands exposure to high mechanical stress levels
- **Recycling:**
 - All container parts are recyclable

Advantages

- Versatile, with a comprehensive accessories range
- Complies fully with EN or RAL quality requirements
- Open wheel case prevents accumulation of dirt
- Particularly stable due to external position of wheels
- Safe and easy handling
- Suitable for all DIN lifting equipment
- Double angle rail for greater safety when emptying
- Compatible with identification and weighing systems
- Special ribs prevent containers from becoming jammed when stacked

Imprints and markings

- Manufacturer, year of manufacture, material
- Nominal volume, max permitted total weight
- EN 840, RAL markings
- Individual markings with imprints, screen printing, hot-foil printing or adhesive labels
- Customer specific serial numbers if required

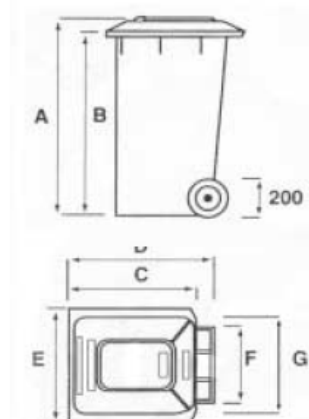
Accessories

- For accessories and special design variations such as lid apertures, locks etc, please refer to the separate accessories sheet for 2-wheeled containers

Dimensions - Weights - Standards

Nominal volume:	240 litres	
Net weight:	approx 12.3 kg	
Max load:	96 kg	
Permitted total weight:	110 kg	
A 1060 mm	D 730 mm	G 550 mm
B 990 mm	E 585 mm	
C 660 mm	F 400 mm	

Measurements to be used as a guide only - variations will occur



All dimensions and performance according to EN 840-1, 5 and 6

Colours

- Standard colours: nature green, dark green, grey
- Special colours are available on request - common colours include: blue, yellow, red, brown, orange



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10-2003/ Subject to technical amendments.

660 Litre Container

Material

- **Polymer components:**
 - Injection moulded from specially designed HDPE
 - Resistant to decay, frost, heat and chemicals
 - Special UV-stabilisation provides excellent ageing characteristics
- **Corrosion resistant steel components:**
 - Wheel forks, wheel bearings, swivel brackets and screws from corrosion resistant steel – no maintenance necessary
- **Noise reduction:**
 - Wheel assemblies with solid rubber tyres
- **Long service life:**
 - High quality materials
 - Most advanced manufacturing processes
 - Withstands exposure to high mechanical stress levels
- **Recycling:**
 - All container parts are recyclable

Advantages

- Easy handling through the use of ergonomic handles
- Versatile, with a comprehensive accessories range
- Optional, easy to use lid within a lid
- Complies fully with EN or RAL quality requirements
- User-friendly handles on all sides
- User friendly handles at the rear of the container
- Safe, easy handling, even with heavy loads
- Various wheel assembly configurations for different applications
- Water drainage plug as standard (except for medical waste containers)
- Compatible with identification and weighing systems
- Suitable for all DIN lifting equipment

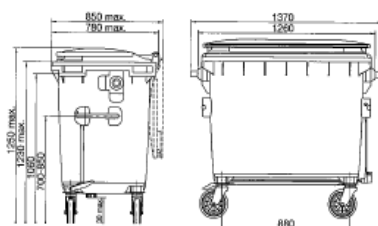
Accessories

- For accessories and special design variations such as lid apertures, locks, towing brackets and fork lift sleeves, please refer to the separate accessories sheet for 4-wheeled containers

Dimensions – Weights – Standards

- Nominal volume: 660 litres
- Net weight: approx 43 kg
- Max load: 264 kg
- Permitted total weight: 310 kg

Measurements to be used as a guide only – variations will occur



All dimensions according to EN 840



Colours

- Standard colours: green, blue, yellow
- Special colours are available on request (in batch quantities only)
- All additives are cadmium free and environmentally friendly



Imprints and markings

- Manufacturer, year of manufacture, material
- Nominal volume, max permitted total weight
- EN 840, RAL markings
- Individual markings with imprints, screen printing, hot-fol printing or adhesive labels available on request (in batch quantities only)

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1100 Litre Flat Lid Container

Material

- Polymer components:
 - Injection moulded from specially designed HDPE
 - Resistant to decay, frost, heat and chemicals
 - Special UV-stabilisers provide excellent ageing characteristics
- Corrosion resistant steel components:
 - Wheel forks, wheel bearings, swivel brackets, lid retention springs and screws from galvanised steel. No maintenance necessary.
- Noise reduction:
 - Wheel assemblies with solid rubber tyres
- Long service life:
 - High quality materials
 - Excellent manufacturing processes
 - Withstands exposure to high mechanical stress levels
- Recycling:
 - All container parts are recyclable

Design

ADVANTAGES FOR THE USER:

- Easy handling through the use of ergonomic handles
- Versatile, with a comprehensive accessories range
- In accordance with the safety requirements of EN-840

ADVANTAGES FOR THE COLLECTOR:

- Easy grip handles on all sides
- Safe, easy handling, even with heavy loads
- Various wheel assembly configurations for different applications
- Improved water drainage as a result of rounded lids
- Water drainage plug as standard†
- Compatible with identification and weighing systems

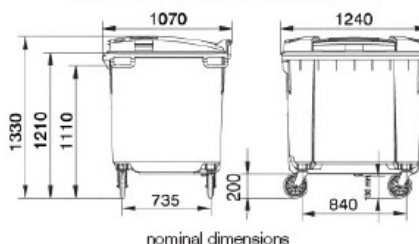
Accessories

- For accessories and special design variations such as lid apertures, locks, towing brackets and fork lift sleeves, please refer to the separate accessories sheet for 4-wheeled containers

Dimensions - Weights - Standards

- Nominal volume: 1100 litres
- Net weight: approx. 65 kg
- Max. load: 440 kg
- Permitted total weight: 510 kg

measurements to be used as a guide only - variations will occur



Colours

- Standard colours: green, blue, yellow
- Special colours are available on request*
- All additives are cadmium free and environmentally friendly



Imprints and markings

- Manufacturer, year of manufacture, material
- Nominal volume, max. permitted total weight
- EN 840, RAL markings
- Individual markings with imprints, screen printing, hot-foil printing or adhesive labels available on request *



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02-2003/ Subject to technical amendments. *Minimum batch quantities. †Except for medical use.

Specifications >>



Front Lift Collection System

Vehicle Safety Features

- On-board reversing camera
- Heated external mirrors
- Reversing lights and beepers
- Dual positioned hazard lights
- Rotating flashing beacons



Container Options

- Plastic and steel lids
- Castors
- Rubber wheels
- Forklift pockets
- Sloping fronts

Container Accessories

- Liners
- Cartlifters
- Carts
- Docket holder
- Padlocks and chains



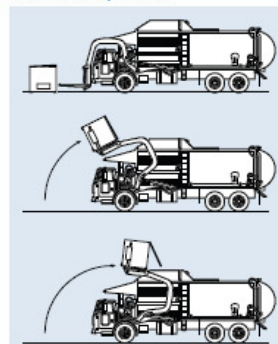
Vehicle Specifications

Overall length	Up to 11m
Overall width	2.5m
Height (travel)	Up to 4.2m
Height (in operation)	Up to 8.5m
Weight (vehicle only)	16.5t
Weight (payload)	11.0t
Turning circle	25.0m

Container Specifications

Capacity	1.5m ³	3.0m ³	4.5m ³
Depth	0.905m	1.505m	1.605m
Width	1.805m	1.805m	1.805m
Height	0.910m	1.225m	1.570m

Collection Operation



Note: Specifications are a guide only. Printed on recycled paper using environmentally friendly soy-based inks.

SITA's Range of Services include Small Business Waste, Commercial Waste, Industrial Waste, Recycling, Product Destruction, Waste Audits, Government, Domestic Waste, Liquid Waste, Medical Waste, Security Disposal, Builders Bins, Temporary Bins and Hygiene Services

Call 13 13 35 or visit sita.com.au

Specifications >>



Rear Lift Collection System

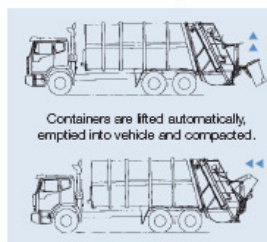
Container Specifications

	Plastic (polyethylene)				Metal (galvanised steel)	
Capacity	120l	240l	660l	1100l	1.5m³	3.0m³
Height	0.92m	1.075m	1.235m	1.485m	1.3m	1.3m
Width	0.54m	0.58m	1.36m	1.36m	2.4m	2.4m
Length	0.62m	0.715m	0.765m	1.07m	1.25m	2.25m
Weight	9.5kg	13.5kg	45kg	65kg	300kg	400kg

Vehicle Specifications

Overall length	8.0m
Overall width	2.5m
Height (travel)	3.4m
Height (in operation)	3.4m
Weight (vehicle only)	13.0t
Weight (payload)	9.5t
Turning circle	25.0m

Rear Lift Collection Operation



Vehicle Safety Features

- On board reversing camera
- Hydraulic valves, lifting gear and doors
- Heated external mirrors
- Reversing lights and beepers

Container Options

- Foot operated lid
- Electronic chip provision
- Wheel locking device
- Divider system
- Size
- Flip top and roll top lids
- Colours (according to national standards) and decals

Container Accessories

- Wheel brakes
- Liners
- Security posts
- Padlocks and chains
- Cart cradle
- Waste ID labels
- Bin lifter

Note Specifications are a guide only. Printed on recycled paper using environmentally friendly soy-based inks.



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Call 13 13 35 or visit sita.com.au



Electrodrive Waste Bin system

The Waste Bin System is an ideal solution for large facilities with centralised dumping points. Quickly and easily bring your waste bins to the one place for emptying. Safety features include: horn, flashing light, and back off button.

-  Features an Electrodrive Tug and a Waste Bin Mover
-  Carries up to 4 x 240L wheelie bins
-  Easy to manoeuvre with forward and reverse drive
-  Customised movers available to suit your facility
-  Electric powered: 24V deep cycle, sealed gel cell batteries
-  Easily traverses outdoor terrain and is weatherproof
-  Equipment training and servicing programs available
-  Simple to use, no driver's licence required

Specifications

Waste Bin Mover Dimensions:
Height: 1400
Length: 1600 (2 Bin), 2100 (3), 2600 (4)
Width: 715

Tug Dimensions:
Height: 890
Length: 1450 (fitter handle down)
Width: 630
Capacity: 1000kg
Weight: 170kg
Voltage: 24V
Range: 12km

